Kansas Behavioral Health Risk Bulletin

Kansas Department of Health and Environment

September 7, 1995 **Bureau of Chronic Disease and Health Promotion** **Vol. 1 No. 8**

High Blood Cholesterol in Kansas

High blood cholesterol (or hypercholesterolemia) is associated with an increased risk of cardiovascular disease, especially coronary heart disease (CHD), the leading cause of death in Kansas. Studies have shown that the risk of CHD increases as the level of cholesterol in the blood increases. People with a total blood cholesterol level of 240 mg/dL or higher have approximately twice the risk of developing CHD as people with normal blood cholesterol. Approximately 30% of CHD in the United States is attributed to high blood cholesterol[1].

Cholesterol is a fat-like substance found in all of the body's cells. Cholesterol is produced naturally by the body and is also obtained from eating animal products such as egg yolks, whole milk dairy products, meat, fish, and poultry; however, the body normally produces all the cholesterol it requires, so consumption of cholesterol containing foods is not necessary to maintain good health.

Cholesterol is carried in the blood by various lipoproteins and is used to form cell membranes, certain hormones, and other essential substances. Low density lipoprotein (LDL) is the major cholesterol carrier in the blood; carrying about 60 to 80 percent of the body's cholesterol[2]. If there is too much LDL cholesterol in the blood, cholesterol may be deposited in artery walls (atherosclerosis). As the arterial deposits build up over time the artery narrows and may eventually become blocked, stopping the normal flow of blood, and leading to tissue or organ death.

A person is considered to have high blood cholesterol if their total cholesterol level is equal to or greater than 240 mg/dL. Persons with a total cholesterol between 200-239 mg/dL are considered to have borderline high blood cholesterol, while a total cholesterol level below 200 mg/dL is considered desirable. The United States Preventive Services Task Force recommends that persons aged 18 and older have a blood cholesterol screening every 5 years. Persons with total cholesterol levels greater than 200 mg/dL during an initial screening should have a second cholesterol screening in 1 to 8 weeks to confirm the results of the first test.

Several risk factors are known to increase a person's risk of having a high blood cholesterol level. Risk factors which can not be eliminated are a family history of high blood cholesterol and advancing age. Modifiable risk factors that contribute to high blood cholesterol are dietary fat intake (especially saturated fats), being overweight, physical inactivity, and cigarette smoking.

In 1993, the Kansas Department of Health and Environment, Bureau of Chronic Disease and Health Promotion, conducted the Behavioral Risk Factor Surveillance System (BRFSS) survey to assess the prevalence of health behaviors among adult Kansans (aged 18 and older) through a random digit-dialed telephone interview. Respondents were asked "Have you ever had your blood cholesterol level checked?" Those who answered yes were asked "Have you ever been told by a doctor or other health professional that your blood cholesterol is high?" Those who answered yes to this question are considered to have high blood cholesterol.

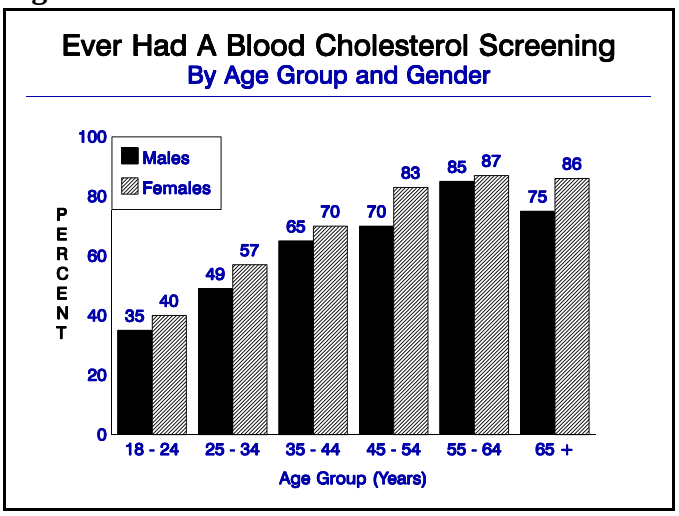
This bulletin examines high blood cholesterol among Kansans, interventions which may help prevent or control high blood cholesterol, and the Healthy Kansans 2000 objectives relating to high

blood cholesterol.

Ever Had A Blood Cholesterol Screening

Overall: According to the 1993 BRFSS survey, only 66% of adult Kansans have ever had their blood cholesterol checked.

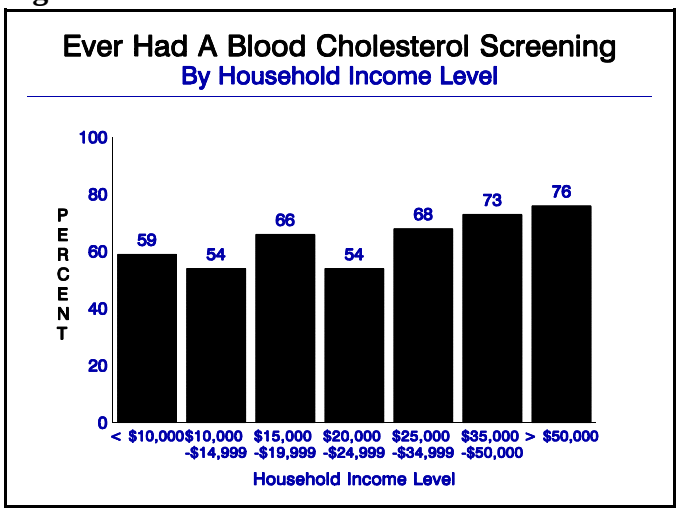
Figure 1



Age Group and Gender (Fig. 1): Women (71%) are more likely than men (61%) to have ever had their blood cholesterol checked. The prevalence of ever having a blood cholesterol screening increases with advancing age. Only 38% of 18 to 24 year olds have ever had their blood cholesterol checked, while 83% of Kansans aged 55 and older have had their blood cholesterol screened.

Education: The prevalence of ever having a blood cholesterol screening generally increase with higher levels of educational attainment. Kansans without a college degree are less likely to have had a blood cholesterol screening (63%) compared to Kansans with a college degree (76%), the group most likely to have had a blood cholesterol screening.

Figure 2

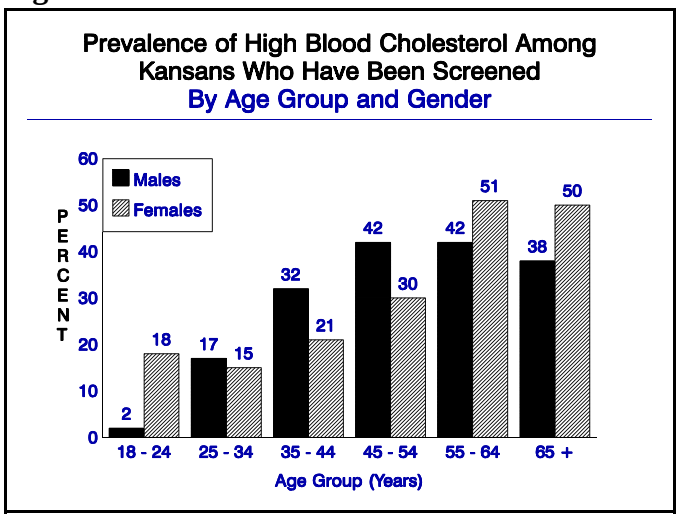


Income (Fig. 2): The prevalence of ever having a blood cholesterol screening generally increases with increasing levels of household income. The prevalence of ever having a blood cholesterol screening increases from 57% among Kansans with household incomes below $15,000 to 76% among Kansans with household incomes greater than $50,000.

Have High Blood Cholesterol

Overall: Among Kansans who have ever had their blood cholesterol screened, 32% reported they have been told their blood cholesterol is high.

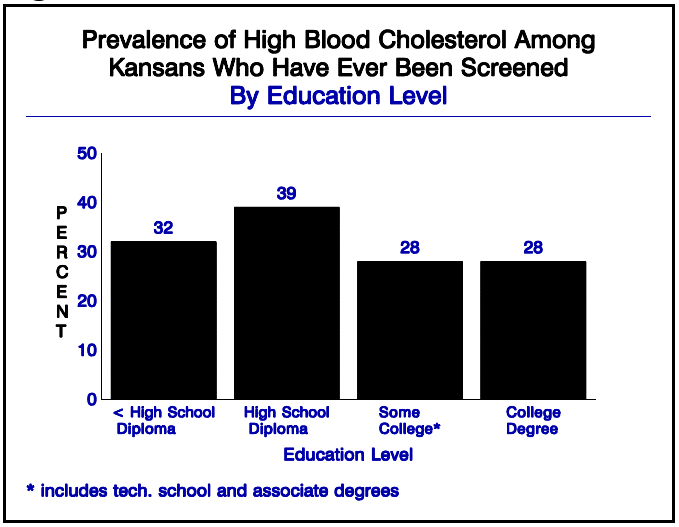
Figure 3



Age Group and Gender (Fig. 3): Although the prevalence of high blood cholesterol among those Kansans who have ever been tested is similar for males (31%) and females (33%), substantial differences exist between male and female

cholesterol levels when examined by age group. Among Kansans who have ever been screened, the prevalence of high blood cholesterol is higher among men than women for persons aged 35 to 54, but lower for men than women among those aged 55 and older. The prevalence of high blood cholesterol increases with advancing age and is highest among Kansans aged 55 and older (46%).

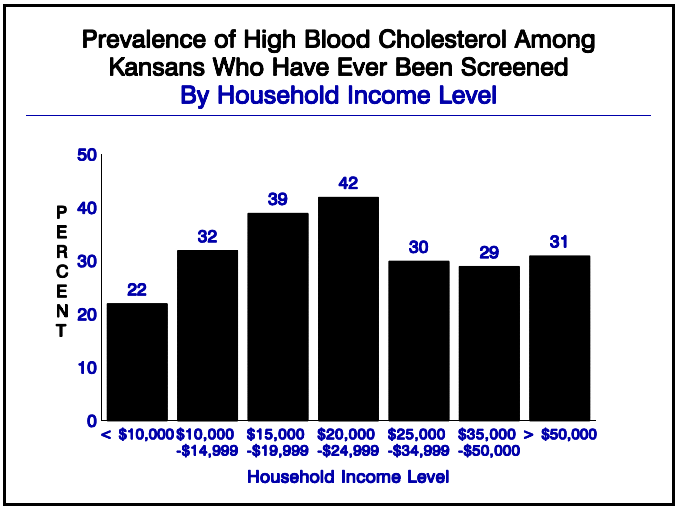
Figure 4



Education (Fig. 4): Although a linear correlation between the prevalence of elevated cholesterol and increasing education is not apparent, it does appear that among those Kansans who have ever had a blood cholesterol screening, the prevalence of high blood cholesterol is greater among Kansans without any college or post-secondary education (38%) than among Kansans with any college or post-secondary education (28%).

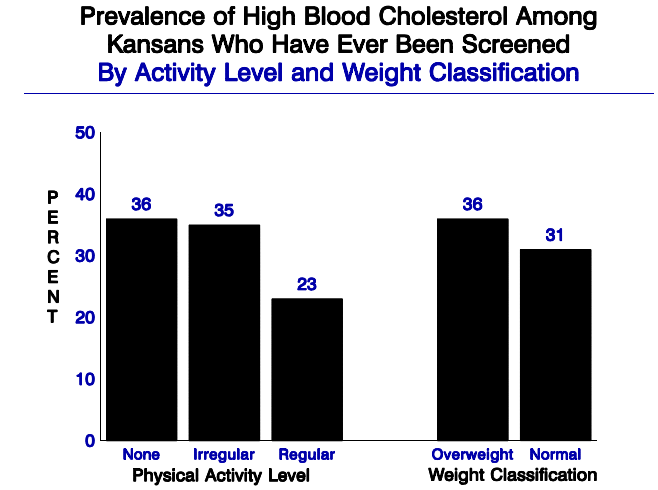
Income (Fig. 5): Among Kansans who have ever had a blood cholesterol screening, the highest prevalence of high blood cholesterol occurred among Kansans with household incomes between $15,000 to $24,999 (41%). Kansans with household incomes below $10,000 had the lowest prevalence of high blood cholesterol (22%).

Figure 5



Physical Activity (Fig. 6): The prevalence of having high blood cholesterol, among Kansans who have ever had their blood cholesterol checked, is higher among Kansans who engage in no physical activity (36%) or irregular physical activity[A] (35%) than among Kansans who engage in regular physical activity[B] (23%).

Figure 6



Overweight[C] (Fig. 6): Among Kansans who have ever had their blood cholesterol checked, Kansans who are overweight[D] (36%) are more likely to have high blood cholesterol than Kansans with normal body weight (31%).

A Irregular physical activity is defined as physical activity < 3 times a week or < 20 minutes a session.
B Regular physical activity is defined as physical activity at least 3 times a week for at least 20 minutes a session.
C Based on Body Mass Index (BMI). BMI is calculated by taking a person's weight in kilograms and dividing it by their height in meters squared (kg/m^2).
D Males with a BMI equal to or greater than 27.8 and females with a BMI equal to or greater than 27.3 are considered overweight.

Conclusions: Using the information provided by the 1993 BRFSS survey, the following conclusions can be made about which groups are at increased risk of having high blood cholesterol:

* Kansans aged 55 and older
* Kansans with a high school diploma or less
* Kansans with household incomes of $15,000 to $24,999
* Kansans who do not exercise regularly
* Overweight Kansans

Recommendations: The following interventions are recommended to help prevent and control high blood cholesterol:

1. A blood cholesterol screening every 5 years (more often if total blood cholesterol is 200 mg/dL or greater).
2. Consume 30% or less of total calories from fat, with less than 10% of total calories from saturated fats.
3. Consume less than 300 mg of cholesterol per day.
4. Exercise regularly. At least 3 times a week for 20 minutes each time.
5. Quit smoking if you smoke and do not start smoking if you are a non-smoker.
6. In cases where lifestyle modifications fail to control high blood cholesterol, medications should be considered to lower cholesterol levels.

Table 1: Blood Cholesterol Objectives

	Kansas Baseline	Healthy Kansans 2000 Objectives
% having had a cholesterol check in the last 5 yrs	65.5% (1992)	75%
% of primary care providers who treat high blood cholesterol according to guidelines	Not Available	75%

Healthy Kansans 2000 Objectives: The Healthy Kansans 2000 objectives relating to high blood cholesterol are to:

1. Increase to 75% the proportion of adult Kansans who have had their blood cholesterol checked within the past 5 years.
2. Increase to 75% the proportion of Kansas primary care providers who treat elevated blood cholesterol in a manner consistent with current management guidelines.

References:

1 Anda RF. Elevated Blood Cholesterol. IN: Brownson RC, Remington PL, Davis JR, eds. *Chronic Disease Epidemiology and Control.* APHA, Baltimore, MD: Port City Press, 1993: PP 123-135.

2 American Heart Association. *1992 Heart and Stroke Facts*. AHA. 1991.

For additional information contact the BRFSS Program Coordinator by writing to the address below or by calling (913) 296-1207.

Kansas Department of Health and Environment
Bureau of Chronic Disease and Health Promotion
Landon State Office Building
900 SW Jackson Suite 901N
Topeka, KS 66612-1290